

Weathering Steel

- Along the West Rail Line, the 6th Avenue Bridge as well as the Platte River Bridge are both made of weathering steel.
- Weathering steel will naturally rust to a dark purple-brown color, eliminating the need for initial painting, repainting or maintenance in the future.
- Bridge engineers choose weathering steel for its performance, as well as economical and environmental benefits.
- Weathering steels contain elements that allow them to form a protective coating when exposed to the atmosphere.
- Weathering steel has the unique characteristic that, under proper conditions, corrodes by forming a dense, tight barrier that seals out the atmosphere and minimizes further corrosion. Other types of steel forms a coarse, porous and flaky oxide that allows the atmosphere to penetrate the steel, causing more rapid deterioration.
- The first bridge using weathering steel was built over the New Jersey Turnpike in 1964.
- "Weathering" means that due to its chemical composition, the steel forms a protective layer on its surface under the influence of the weather. The layer protecting the surface develops and regenerates continuously when subjected to the influence of the weather.
- The use of uncoated weathering steel typically provides initial cost savings of 10 percent or more and a life cycle cost savings of at least 30 percent. Initial cost savings are due to the fact that weathering steel does not need to be painted.
- Life cycle cost savings are realized by the material's durability. Inspections of bridges in service between 18 and 30 years show that weathering steel performs well in most environments.
- Weathering steel provides environmental benefits as well. They do not require initial painting, thereby reducing emissions of toxins when oil-based coatings are used. They do not require coating removal or disposal of the coatings over the life span of the structure, providing another significant environmental benefit.

